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EXAMINER

ROGERS, DAVID A

ART UNIT

PAPER NUMBER

2856

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/939,139

Applicant(s)

KOSSUTH ET AL.

Examiner

David A. Rogers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities.
 - a. It is recommended that --allows-- be replaced with --allow-- in page 8, line 18;
 - b. It is recommended that page 10, line 29 be updated to show the correct units for the translation range;
 - c. It is noted that reference character "116" has been used to designate both an end (page 10, line 18) and a housing (page 10, line 20). Applicant is requested to correct the specification and, if necessary, the drawings;
 - d. Reference character "414", first used on page 9, line 13, has not been included in the drawings;
 - e. Reference character "108", first used on page 11, line 19, has not been included in the drawings;
 - f. It is noted that reference character "272" has been used to designate both a rigid frame (page 15, line 27) and a dielectric sheet (page 15, line 28). Applicant is requested to correct the specification and, if necessary, the drawings;
 - g. Reference character "278", first used on page 15, line 29, has not been included in the drawings;
 - h. Reference character "288", first used on page 16, line 30, has not been included in the drawings;
 - i. Reference character "296", first used on page 17, line 16, has not been included in the drawings;

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j. Applicant needs to complete the missing reference on page 22, line 26.

k. Reference character "514", first used on page 24, line 28, has not been included in the drawings;

Appropriate correction is required.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "128" in Figure 2; "170" in Figure 4, and "248" in Figure 6. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application.

3. Figure 12 uses the reference number "502" to refer to the robot. This number should be "520". A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application.

Claim Objections

4. Claim 21 is objected to because of the following informalities. Claim 21 is written to depend on claim 22. Based on the limitations presented in claim 21 it is assumed that the applicant intended to depend claim 21 from claim 20 and the claim has been examined in this manner. Appropriate correction is required.

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Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 18 is rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. Claim 18 is directed to a method of claim 1 comprising a protrusion having a distance at least equal to the radius of a fabric sample. The applicant intends the term "protrusion", as in claim 1, to be defined as a probe means, since claim 1 distinguishes a protrusion from an opening. If the protrusion had a distance, i.e. diameter at least equal to the radius of the fabric then the protrusion will not be capable of pressing the fabric through the opening. That is, the diameter of the fabric must inherently be larger than the opening in order to be supported and not fall through the opening. If the protrusion was at least the same size as the fabric sample then the protrusion will also be larger than the opening and, therefore, be incapable of pushing the fabric sample through the opening.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 8-12, 15, 17, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 3,835,697 to Schneider *et al* in view of U.S. Patent 2,786,352 to Sobota and U.S. Patent 3,613,445 to Dent *et al*. Schneider is directed to an apparatus to test the

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characteristics of a sample sheet of material. Sobota is directed to an apparatus to test the characteristics of a sample sheet of material. Dent is directed to an apparatus to test the characteristics of a sample sheet of material. One of ordinary skill in the art at the time of the invention would have been motivated to review and apply the teachings of all references as they are directed to similar technology in the art of testing the characteristics of sample sheets of materials. As stated in *In re McLaughlin*, 170 USPQ 209, "the test for combining references is not what the individual references themselves suggest, but rather what the combination of the disclosures taken as a whole would suggest to one of ordinary skill in the art" and *In re DeLisle*, 160 USPQ 806, "a reference is to be considered not only for what it expressly states, but for what it would reasonably have suggested to one of ordinary skill in the art." Therefore, a *prima facie* case of obviousness to combine the teachings of all references has been established.

8. Claim 1 is directed to a method to screen the fabric handle of an array of fabric samples comprising the steps of a) providing an array of at least two fabric samples; b) protruding the fabric samples through openings; and c) monitoring the results. Claim 2 is directed to the method of claim 1 comprising a step of simultaneously testing the samples. Claims 8, 9, and 10 are individually directed to the method of claim 1 comprising the step of using a specific type of fabric material selected from a group. Claim 11 is directed to the method of claim 1 comprising the step of not piercing the sample. Claim 12 is directed to the method of claim 1 comprising the step of allowing the sample to fold natural under the protrusion. Claim 15 is directed to the method of claim 1 comprising the ratio of sample diameter to the opening diameter being greater than 2. Claim 17 is directed to the method of claim 1 comprising the protrusions cause the fabric to fold and be forced through the opening. Claim 24 is directed to the method of claim 1

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comprising at least one sensor and one data logger. Claim 25 is directed to the method of claim 1 comprising an analysis of the fabric handle. Schneider clearly anticipates the first step of claim 1 and claim 2 where it is shown to be widely known to simultaneously test a plurality of samples (reference items 101 and 102). Schneider further teaches that the samples can be fabric (Abstract). Schneider does not teach an apparatus to test a material using protruding means through openings or a means to monitor the results. Sobota clearly anticipates the second step of claim 1 where it is shown, as best seen in Figures 2 and 3, that it is widely known to test materials by protruding the sample sheet through an opening. Sobota does not teach an apparatus with a plurality of samples or a means to monitor the results. Dent clearly anticipates the third step of claim 1 where it is shown, as seen in Figure 1, that it is widely known provide a means to monitor the results (reference item 36) of a fabric testing device that protrudes a fabric (reference item 29) through a hole. Dent does not teach an apparatus to test a plurality of samples. Individually the references do not teach the claim as a whole. Applicant is directed to *In re Keller*, 642 F.2d 413, 208 USPQ 871, where it has been held that the "test of obviousness is not whether features of [a] secondary reference may be bodily incorporated into primary reference's structure, nor whether claimed invention is expressly suggested in any one or all of references; rather, test is what combined teachings of references would have suggested to those of ordinary skill in art." A *prima facie* case to combine the references by one of ordinary skill in the art has been established by the fact that all the references are within the same technology of testing fabric/sheet materials. With regard to claims 8, 9, and 10, the individual references of Schneider, Sobota, or Dent clearly anticipate the use of any of the claimed fabric types. The term "fabric" is a broad limitation as used in Schneider and Dent and would encompass all of the

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fabric selections from the groups presented and disclosed by the applicant. None of the disclosed fabrics would provide for a new, novel, or otherwise unexpected result over the methods to use the devices of Schneider, Sobota, or Dent. With regard to claims 11 and 12, Dent discloses that it is well known to test a fabric sample without piercing the sample, as best seen in Figures 4b-4c. With regard to claims 12, 15, and 17, Sobota teaches that it is well known to test a fabric sample so that the sample folds naturally and provides for a smooth transition from a flat state to a bent, folded state during protrusion, as best seen in Figures 2 and 3. Sobota further teaches that the protrusion can force the fabric sample through the opening (column 2, lines 16-20). Finally, Sobota teaches that the opening is 2" in diameter and the fabric sample is a 4 1/2" square. The length of one side of the fabric sample is 2.25 times greater than the diameter of the hole. The fact that the sample is square and not round does not provide for a new, novel, or otherwise unexpected result over the device of Sobota. With regard to claim 24, Dent teaches that it is widely known to use a sensor (reference item 10) and a data logger (reference item 36) in the performance of testing of fabric samples. With regard to claim 25 Dent discloses that the fabric handle is of great interest (column 1, lines 36-28). Dent further compares fabric samples to each other, as in examples I (column 4) and II (column 5). Furthermore, one of ordinary skill in the art would know to or be capable of comparing one set of test data to another set of test data from a separate test array. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Schneider with the teachings of Sobota and Dent to obtain a method to simultaneously test an array of any type of fabric samples by protruding the samples through openings, monitoring the results, and subsequently comparing the relative or quantitative results of the individual samples in the array or to samples from other arrays.

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9. Claims 4, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider in view of Sobota and Dent. Claims 4, 5, and 6 are each directed to the method of claim 1 comprising throughput rates for each fabric sample of not greater than ten minutes, not more than two minutes, and not more than 20 seconds, respectively. The devices of Schneider, Sobota, or Dent individually have the inherent capability to test a fabric sample within or for any amount of time desired. Furthermore, Schneider, Sobota, and Dent do not disclose that their devices are limited to operating during a specific period of time. Therefore, Schneider in view of Sobota and Dent discloses the claimed invention except for the time to test a fabric sample being less than ten minutes, two minutes, or 20 seconds as in claims 4, 5, and 6, respectively. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to provide for a preferred time to perform the test, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider in view of Sobota and Dent as applied to claim 1 above, and further in view of U.S. Patent 5,795,989 to Simmons *et al.* Schneider in view of Sobota and Dent are directed to the testing of a characteristic of a fabric sheet sample. Simmons is directed to the testing of a characteristic of a fabric sample sheet. One of ordinary skill in the art at the time of the invention would have been motivated to review and apply the teachings of all references as they are directed to similar technology in the art of testing of fabric sheet samples. As stated in *In re McLaughlin*, 170 USPQ 209, "the test for combining references is not what the individual references themselves suggest, but rather what the combination of the disclosures taken as a whole would suggest to

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one of ordinary skill in the art" and *In re DeLisle*, 160 USPQ 806, "a reference is to be considered not only for what it expressly states, but for what it would reasonably have suggested to one of ordinary skill in the art." Therefore, a *prima facie* case of obviousness to combine the teachings of all references has been established.

11. Claim 3 is directed to the method of claim 1 comprising the screening of 24 samples simultaneously. Schneider in view of Sobota and Dent teach the testing of two samples simultaneously. Schneider in view of Sobota and Dent does not expressly teach a method or an apparatus to test 24 fabric samples. Simmons teaches an apparatus (reference item 10) to test a plurality of fabric specimens (reference item 15), as best seen in Figure 2. While Figure 2 discloses the testing of 8 fabric samples, Simmons further discloses that the testing can include any number of fabric sample holders (column 4, lines 53-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Schneider in view of Sobota and Dent with the teachings of Simmons to obtain an apparatus that is capable of testing the characteristics of at least 24 samples simultaneously.

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider in view of Sobota and Dent as applied to claim 1 above, and further in view of U.S. Patent 2,590,839 to Clapham. Schneider in view of Sobota and Dent are directed to the testing of a characteristic of a fabric sheet sample. Clapham is directed to the testing of a characteristic of a fabric sample sheet. One of ordinary skill in the art at the time of the invention would have been motivated to review and apply the teachings of all references as they are directed to similar technology in the art of testing of fabric sheet samples. As stated in *In re McLaughlin*, 170 USPQ 209, "the test for combining references is not what the individual references themselves suggest, but rather

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what the combination of the disclosures taken as a whole would suggest to one of ordinary skill in the art" and *In re DeLisle*, 160 USPQ 806, "a reference is to be considered not only for what it expressly states, but for what it would reasonably have suggested to one of ordinary skill in the art." Therefore, a *prima facie* case of obviousness to combine the teachings of all references has been established.

13. Claim 7 is directed to the method of claim 1 comprising the testing of at least two different fabric samples. Schneider in view of Sobota and Dent teach the testing of two similar samples simultaneously. Schneider in view of Sobota and Dent does not expressly teach a method to test at least two different fabric samples. The apparatus of Schneider would inherently be capable of testing two fabric samples of different material. Furthermore, even if the device of Schneider lacked this inherency, Clapham teaches that it is well known to use an apparatus to test a plurality of fabric samples (reference item S) and that the samples can either be the same or different materials (column 5, lines 14-23). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Schneider in view of Sobota and Dent with the teachings of Clapham to obtain an apparatus that is capable of testing the characteristics of at least two different fabric samples simultaneously.

14. Claims 13, 16, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider in view of Sobota and Dent as applied to claim 1 above, and further in view of U.S. Patent 3,151,483 to Plummer. Schneider in view of Sobota and Dent are directed to methods and devices to test the characteristics of a sample sheet of material. Plummer is directed to an apparatus to test the characteristics of a sample sheet of material. One of ordinary skill in the art at the time of the invention would have been motivated to review and apply the teachings of all

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references as they are directed to similar technology in the art of testing the characteristics of sample sheets of materials. As stated in *In re McLaughlin*, 170 USPQ 209, "the test for combining references is not what the individual references themselves suggest, but rather what the combination of the disclosures taken as a whole would suggest to one of ordinary skill in the art" and *In re DeLisle*, 160 USPQ 806, "a reference is to be considered not only for what it expressly states, but for what it would reasonably have suggested to one of ordinary skill in the art." Therefore, a *prima facie* case of obviousness to combine the teachings of all references has been established.

15. Claim 13 is directed to the method of claim 1 comprising a funnel-shaped opening. Claim 16 is directed to the method of claim 1 comprising a fabric sample of between 8 and 18 mm. Claim 23 is directed to a method of claim 1 comprising moving the fabric sample normal to a probe between 1 mm/s and 10 mm/s. Schneider in view of Sobota and Dent teach a method and apparatus to test fabric samples by pushing the samples through an opening. Schneider in view of Sobota and Dent does not teach a funnel-shaped opening that is twice the size at the top than at the bottom. Furthermore, Schneider in view of Sobota and Dent does not expressly teach a method and apparatus to test fabric samples where the samples are between 8 mm and 18 mm and where the samples are moved normally to a probe. With regard to claim 16 Plummer teaches a fabric testing apparatus comprising a probe (reference tem 38) that will push a fabric sample (reference item S) through an opening and where the preferred fabric sample shape may be circular (column 5, line 4). Plummer further teaches that the dimensions of the fabric sample are variable (column 4, lines 72-75 and column 5, lines 1-3) and would, therefore, encompass the limitations in the instant application. Finally, as best seen in Figure 1, Plummer teaches that the

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fabric sample will be pressed into a funnel-shaped opening (reference item 22) (column 3, lines 19-26). Plummer also teaches that the fabric sample will move normally relative to the probe (column 3, lines 47-51). Plummer teaches the general conditions of a test apparatus where fabric samples are pressed into a funnel-shaped opening. Plummer does not expressly teach a funnel-shaped opening having a top diameter twice as large as a bottom diameter or a speed of movement between 1 mm/s and 10 mm/s. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to provide for a top diameter twice as large as the bottom diameter or a speed to move the fabric sample in the preferred range in order to perform the test, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233.

16. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider in view of Sobota and Dent as applied to claim 1 above, and further in view of U.S. Patent 3,818,751 to Karper *et al.* Schneider in view of Sobota and Dent are directed to the testing of samples using means to provide a force on one side of a planar sample. The applicant's cited Karper reference is directed to an apparatus for testing of samples by using means to apply a force on one side of a planar sample. One of ordinary skill in the art at the time of the invention would have been motivated to review and apply the teachings of all references as they are directed to similar technology in the art of testing samples using forces applied on one side of planar samples. As stated in *In re McLaughlin*, 170 USPQ 209, "the test for combining references is not what the individual references themselves suggest, but rather what the combination of the disclosures taken as a whole would suggest to one of ordinary skill in the art"

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and *In re DeLisle*, 160 USPQ 806, "a reference is to be considered not only for what it expressly states, but for what it would reasonably have suggested to one of ordinary skill in the art."

Therefore, a *prima facie* case of obviousness to combine the teachings of all references has been established.

17. Claim 14 is directed to a method of claim 1 comprising an indentation surrounding the opening that restricts movement of a sample. Schneider in view of Sobota and Dent teach methods and devices to test samples by applying a force on one side of the planar samples. The samples, as in the methods and devices of Sobota and Dent, are not restricted in movement in the planar region as the sample is placed on the holder. Karper teaches a testing apparatus, as best seen in Figures 1 and 5, that is used to press a sample into a cavity. In Figure 5 is a recessed region (reference item 26) with two notched edges on its periphery. This recessed region is designed to hold a specimen for testing (column 4, lines 42-44). These notched members inherently prevent the sample from moving in a planar direction as claimed by the applicant. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Schneider in view of Sobota and Dent with the teachings of Karper to obtain a method to test samples using a pressing member and a sample that is prevented from movement in a planar direction by the use of a recessed notch region.

18. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider in view of Sobota and Dent as applied to claim 1 above, and further in view of Simmons, Karper, and U.S. Patent 3,618,372 to Beckstrom. Schneider in view of Sobota and Dent are directed to a method to test a characteristic of a planar sample. Simmons is directed to the testing of a characteristic of a planar sample. Karper is directed to the testing of a

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characteristic of a planar sample. Beckstrom is directed to the testing of a characteristic of a planar sample. One of ordinary skill in the art at the time of the invention would have been motivated to review and apply the teachings of all references as they are directed to similar technology in the art of testing of planar samples. As stated in *In re McLaughlin*, 170 USPQ 209, "the test for combining references is not what the individual references themselves suggest, but rather what the combination of the disclosures taken as a whole would suggest to one of ordinary skill in the art" and *In re DeLisle*, 160 USPQ 806, "a reference is to be considered not only for what it expressly states, but for what it would reasonably have suggested to one of ordinary skill in the art." Therefore, a *prima facie* case of obviousness to combine the teachings of all references has been established.

19. Claims 19 and 20 are each directed to the method of claim 1 comprising a plurality of aligned holes, a first plate, and a second plate. Schneider in view of Sobota and Dent teaches that it is known to simultaneously test fabric samples. As can be seen in Figure 1 of Schneider, it is also known to keep the samples from overlapping each other. Simmons further discloses that a larger plurality of fabric samples can be tested simultaneously, as seen in Figure 2. Simmons further discloses that it is well known that any number of samples can be simultaneously tested (column 4, lines 53-57) and where the samples are confined to specific regions and do not overlap. Karper teaches that the planar sample can be constrained in a predetermined location using notches on the edges of a circular cavity. Beckstrom teaches an apparatus comprising a sample holder (reference item 22) with a central hole (reference item 24) that holds a sample (reference item 35), and a top plate (reference item 10 comprising items 10a' and 10b'). The top plate further comprises a hole (reference item 21) that is aligned with the opening in the sample

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holder thus forming a tunnel. Beckstrom states that these aligned holes allow the probe (reference item 47) to pass unrestricted to the sample. Beckstrom does not teach a plurality of such aligned holes in the support plate or on the top plate. One of ordinary skill in the art, especially in view of the teachings of Schneider, Sobota, Dent, Simmons, Karper and Beckstrom would easily be capable of multiplying the number of holes and, if needed, the number of probes in order to press test a substantial quantity of fabric samples. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Schneider in view of Sobota and Dent with the teachings of Simmons, Karper, and Beckstrom to obtain a device to test a plurality of samples where the samples are not overlapping, the samples are in predetermined locations so as to not move and where the locations are larger than the openings, and where there are a plurality of aligned opens to allow a probe to test press the samples.

20. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider in view of Sobota, Dent, Simmons, Karper, and Beckstrom as applied to claims 1 and 20 above, and further in view of U.S. Patent 4,567,774 to Manahan *et al.* The teachings of Schneider in view of Sobota, Dent, Simmons, Karper, and Beckstrom are directed to the testing of samples using means to provide a force on a planar sample. The applicant's cited Manahan reference is directed to an apparatus for testing of samples by using means to apply a force on a planar sample. One of ordinary skill in the art at the time of the invention would have been motivated to review and apply the teachings of all references as they are directed to similar technology in the art of testing samples using forces applied on one side of planar samples. As stated in *In re McLaughlin*, 170 USPQ 209, "the test for combining references is not what the individual references themselves suggest, but rather what the combination of the disclosures taken as a

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whole would suggest to one of ordinary skill in the art" and *In re DeLisle*, 160 USPQ 806, "a reference is to be considered not only for what it expressly states, but for what it would reasonably have suggested to one of ordinary skill in the art." Therefore, a *prima facie* case of obviousness to combine the teachings of all references has been established.

21. Claim 21 is directed to the method of claim 20 comprising a gap between a first plate and a second plate. Schneider in view of Sobota, Dent, Simmons, Karper, and Beckstrom teach an apparatus for the testing of a planar sample using a pressing force. As seen in Figures 2, 3, 7, and 8 of Beckstrom the resilient member (reference item 34 or 49) would allow for a gap to exist between a first plate (reference item 22) and a second plate (reference item 10 comprising items 10a, 10a', 10b, and/or 10b'). Even if this resilient member did not provide for a gap between the plates, Manahan teaches, as best seen in Figure 3, that it is known to test a planar member (reference item 25) that is supported loosely by an upper plate (reference item 65) and a lower plate (reference item 66). The 1 mm gap, as disclosed by the applicant, functions in a similar manner as the loose gap of Manahan in that it allows the planar test member to move under the applied load. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to provide for a preferred gap of 1 mm to perform the test, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233.

22. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider in view of Sobota and Dent as applied to claim 1 above, and further in view of U.S. Patent 4,567,774 to Manahan *et al.* Schneider in view of Sobota and Dent are directed to the testing of

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samples using means to provide a force on one side of a planar sample. The applicant's cited Manahan reference is directed to an apparatus for testing of samples by using means to apply a force on one side of a planar sample. One of ordinary skill in the art at the time of the invention would have been motivated to review and apply the teachings of all references as they are directed to similar technology in the art of testing samples using forces applied on one side of planar samples. As stated in *In re McLaughlin*, 170 USPQ 209, "the test for combining references is not what the individual references themselves suggest, but rather what the combination of the disclosures taken as a whole would suggest to one of ordinary skill in the art" and *In re DeLisle*, 160 USPQ 806, "a reference is to be considered not only for what it expressly states, but for what it would reasonably have suggested to one of ordinary skill in the art." Therefore, a *prima facie* case of obviousness to combine the teachings of all references has been established.

23. Claim 22 is directed to a method of claim 1 comprising an indentation surrounding the opening that restricts movement of a sample. Schneider in view of Sobota and Dent teach methods and devices to test samples by applying a force on one side of the planar samples. The environmental conditions are not regulated or monitoring during the testing of the samples using the methods and devices of Sobota and Dent. Manahan teaches a testing apparatus, as best seen in Figures 1 and 2, that is used to press a disk-shaped sample (reference item 25) into a cavity (reference item 36). In Figure 2 Manahan discloses an environmental chamber (reference item 50) that contains the testing portion of the apparatus. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Schneider in view

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of Sobota and Dent with the teachings of Manahan to obtain a method to test samples using a pressing member and an environmental chamber surrounding the testing region.

24. Claims 26, 27, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider in view of Sobota and Dent as applied to claim 1 above, and further in view Beckstrom. The *prima facie* reasoning to apply the teachings of all of the cited references has been provided above.

25. Claim 26 is directed to the method of claim 1 comprising at least one probe. Claim 27 is directed to the method of claim 26 comprising monitoring the response of the fabric sample by measuring the load and the displacement. Claim 30 is directed to the method of claim 26 comprising at least one probe moving normal to the sample. Claim 31 is directed to the method of claim 26 comprising a test fixture with a blunt end. Schneider in view of Sobota and Dent teaches that it is widely known to test an array of fabric samples using means to push the fabric samples through an opening. Sobota teaches a ball placed on the fabric sample in order to push the fabric sample through an opening. Dent teaches that it is known to use a bar-shaped member to push a fabric sample through a slot. While the broadest, reasonable interpretation of the claims are given, it is felt that the ball of Sobota and the bar member of Dent do not meet the definition of a probe as used by the applicant. Therefore, Schneider in view of Sobota and Dent does not teach the use of a probe to push the fabric sample through an opening. Beckstrom teaches an test fixture, as best seen in Figure 1, with at least one probe (reference item 47) and a blunt end (reference item 48) that moves normally (column 2, lines 51-55) to the fabric sample (reference item 46). Furthermore, both Dent and Beckstrom teach devices that measure the load. Dent teaches that the load and displacement are also monitored, as in Figure 4a of Dent. It

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would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Schneider in view of Sobota and Dent with the teachings of Beckstrom to obtain an apparatus to test a fabric sample using a probe with a blunt end.

26. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider in view of Sobota, Dent, and Beckstrom as applied to claims 1 and 26 above, and further in view of Karper. The *prima facie* reasoning to apply the teachings of all of the cited references has been provided above. Claim 28 is directed to the method of claim 26 comprising the measuring the force in relation to time. Schneider in view of Sobota, Dent, and Beckstrom teaches that it is known to measure force and displacement, as shown in Figure 4a of Dent. One of ordinary skill in the art would easily be capable of measuring and displaying any other pertinent test values and results, including force with regard to time. Even if one of ordinary skill was not able to do this, Karper teaches that it is well known to use an apparatus that presses a specimen into a cavity and then to measure the stress versus time. As one of ordinary skill in the art of stress analysis would know stress is directly related to force by the simple equation $\sigma = \left(\frac{F}{A} \right)$, where σ is stress, F is the force, and A is the planar area of the sample. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Schneider in view of Sobota, Dent, and Beckstrom with the teachings of Karper to obtain a method to test samples and measure the test applied force with respect to time.

27. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider in view of Sobota, Dent, and Beckstrom as applied to claims 1 and 26 above, and further in view of Plummer. The *prima facie* reasoning to apply the teachings of all of the cited references has been provided above. Claim 29 is directed to a method of claim 26 comprising moving the

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sample holder in a normal direction to the probe. Schneider in view of Sobota, Dent, and Beckstrom teach a method and apparatus that can test a fabric sample by moving a probe in a normal direction to the fabric sample. Reversing the movement so that the fabric sample is translated towards the probe would have been an obvious modification to one of ordinary skill in the art. Furthermore, moving the fabric sample does not provide for a new, novel, or otherwise unexpected result over the apparatus of Schneider in view of Sobota, Dent, and Beckstrom. Even if the direction of movement was not an obvious modification, Plummer teaches a probe testing apparatus, as best seen in Figure 1, for pushing a blunt member (reference item 38) into a fabric sample (reference item S). Plummer further teaches that sample holder (reference item 10) is moved in a direction normal to the probe member (column 3, lines 47-51). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Schneider in view of Sobota, Dent, and Beckstrom with the teachings of Plummer to obtain a method to test a fabric sample by moving the sample towards a probe member.

28. Claims 32-34 are is rejected under 35 U.S.C. 103(a) as being unpatentable over Simmons in view of Beckstrom, Karper, Sobota, Manahan, Plummer, and Dent. The *prima facie* reasoning to apply the teachings of all of the cited references has been provided above. Simmons teaches an apparatus (reference item 10) to test a plurality of fabric specimens (reference item 15), as best seen in Figure 2. While Figure 2 discloses the testing of 8 fabric samples that do not overlap and are individually confined to predetermined locations, Simmons further discloses that the testing can include any number of fabric sample holders (column 4, lines 53-57). Beckstrom teaches an apparatus comprising a sample holder (reference item 22) with a central hole (reference item 24) that holds a sample (reference item 35) and that moves in a normal direction

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relative to a probe (reference item 47) with a blunt end (reference item 48), and a top plate (reference item 10 comprising items 10a, 10a', 10b, and/or 10b'). The top plate further comprises a hole (reference item 21) that is aligned with the opening in the sample holder thus forming a tunnel. Beckstrom states that these aligned holes allow the probe (reference item 47) to be moved in a normal direction relative to the sample and to pass unrestricted to the sample. Karper teaches a press testing apparatus, as best seen in Figures 1 and 5, that is used to press a sample into a cavity. In Figure 5 is a recessed region (reference item 26) with two notched edges on its periphery. This recessed region is designed to hold a specimen for testing (column 4, lines 42-44). These notched members inherently prevent the sample from moving in a planar direction, as claimed by the applicant, and forms a location for the sample that extends beyond the opening. Sobota teaches a press testing apparatus that can force the fabric sample through the opening (column 2, lines 16-20) without piercing the fabric that allows the fabric to fold naturally from a flat state to a folded state during the protrusion and where the fabric contacts the surface of the opening. Sobota teaches that the opening is 2" in diameter and the fabric sample is a 4 1/2" square. The length of one side of the fabric sample is 2.25 times greater than the diameter of the hole. The fact that the sample is square and not round does not provide for a new, novel, or otherwise unexpected result over the device of Sobota. Manahan teaches, as best seen in Figure 3, that it is known to test a planar member (reference item 25) that is supported loosely by an upper plate (reference item 65) and a lower plate (reference item 66). The 1 mm gap, as disclosed by the applicant, functions in a similar manner as the loose gap of Manahan in that it allows the planar test member to move under the applied load. Dent teaches a press testing apparatus where it is known to measure and monitor the results of the testing of a fabric sample

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using a load cell (reference item 10) and a recorder (reference item 36) and where the results can include force in relation to the displacement. Plummer teaches that it is well known to move a fabric sample holder of a press testing apparatus normally relative to the probe (column 3, lines 47-51). Beckstrom, Dent, and Plummer do not expressly teach a speed of movement between 1 mm/s and 10 mm/s. Karper teaches that it is well known to use an apparatus that presses a specimen into a cavity and then to measure the stress versus time. As one of ordinary skill in the art of stress analysis would know stress is directly related to force by the simple equation

$$\sigma = \left(\frac{F}{A} \right), \text{ where } \sigma \text{ is stress, } F \text{ is the force, and } A \text{ is the planar area of the sample. Dent discloses}$$

that the fabric handle is of great interest (column 1, lines 36-28). Dent further compares fabric samples to each other, as in examples I (column 4) and II (column 5). Furthermore, one of ordinary skill in the art would know to or be capable of comparing one set of test data to another set of test data from a separate test array. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to provide for a preferred gap of 1 mm, a speed to move the fabric sample holder in the preferred range, or to have samples that were between 8 and 18 mm in diameter in order to perform the testing, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Beckstrom, Karper, Sobota, Manahan, Plummer, and Dent to obtain a method for testing a plurality of fabric samples comprising an apparatus with at least one probe for pressing the plurality of fabric samples to test the probe and a bottom plate with a defined recessed region for the placement of each fabric sample and top plate where the probe is made to contact the

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fabric and press the fabric through an aligned hole formed by the top and bottom plates and to monitor and measure the results.

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Rogers whose telephone number is (703) 305-4451. The examiner can normally be reached on Monday - Friday (0730 - 1600).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (703) 305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.

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November 1, 2002


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